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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,764	08/04/2003	Yihua Chang	4022-000009	6497
27572	7590	10/21/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C.			NOLAN, SANDRA M	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	

1772

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/633,764		CHANG ET AL.	
	Examiner		Art Unit	
	Sandra M. Nolan		1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <ul style="list-style-type: none"> 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-23-04</u>. | <ul style="list-style-type: none"> 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____. |
|---|---|

DETAILED ACTION

Claims

1. Claims 1-54 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 23 February 2004 was considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins (WO 02/36196A1, published 10 May 2002) in view of Frisk (US 6,117,541).

Watkins teaches articles, such as balls and footwear, made from laminate barrier membranes and inflatable bladders formed from them (page 1, lines 8-10). The articles have ethylene/vinyl alcohol (EVOH) barrier layers (page 5, lines 13-14); polyester-

urethane elastomer layers (page 6, lines 22-24 and page 7, lines 24-25) and the bladders can be inflated with nitrogen (pages 3, line 35).

The examiner deems "footwear" to include shoes.

Watkins fails to teach clay particles with the thickness and aspect ratios claimed or the thickness of layers containing them, as recited in applicants' claims.

Frisk teaches laminates that contain clay particles of 0.9 to 100 nM size and 100 to 2,000 aspect ratio (abstract). The clays are platelets (col. 3, lines 30-35) of montmorillonites (col. 3, line 36) and are used in layers that are 25 to 150 microns thick (col. 5, lines 35-37). It teaches that the clay platelets provide barrier, heat stability and stiffness properties to articles made with them (col. 4, lines 13-29).

The references are analogous because they both deal with laminates having barrier properties.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the clay platelets of Frisk in the membranes, bladders, balls, and footwear of Watkins in order to improve the barrier properties thereof.

The motivation to employ the clay platelets of Frisk in the membranes, bladders, balls, and footwear of Watkins is found at col. 4, lines 13-29 of Frisk, where the barrier properties of articles containing the platelets are discussed.

It is deemed desirable to make membranes, bladders, balls and footwear having improved barrier properties in order to maximize their useful lives.

6. Claims 28-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watkins and Frisk as applied to claims 1-27 above, and further in view of Fibiger et al (WO 00/47657) and Bagrodia et al (WO 01/92388A2).

Bagrodia was cited in applicants' IDS.

Watkins and Frisk are discussed above. They fail to teach the production of articles having layers containing clay and polymer materials or articles containing 10 layers or more.

Bagrodia teaches multilayer articles (page 34, line 15) in which clay layers are sandwiched between polymer layers (page 36, lines 27-28). The layered products having low haze (page 1, lines 8-12).

Fibiger teaches laminates containing 3 to 10 layers (page 6, line 16) or more than ten layers (page 7, lines 29-30) from montmorillonites (page 5, line 6) materials that are plate-like nanofillers (page 7, lines 5-7). Articles made therefrom can be more than one kilogram in weight (page 7, line 30).

The four references are analogous because they all deal with barrier laminates.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the sandwich layers of Bagrodia and the 10 or more layers of Fibiger when making the balls or footwear suggested by the combination of Atkins and Frisk in order to permit the production of larger articles having low haze.

The motivation to employ the sandwich layers of Bagrodia and the 10 or more layers of Fibiger when making the balls or footwear suggested by the combination of

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Atkins and Frisk is found at page 1, lines 8-12 of Bagrodia and at page 7, line 30 of Fibiger, where the production of articles weighing more than 1 kilogram is taught.

It is deemed desirable to make articles having improved haze and high weight from the materials suggested by the combination of Watkins and Frisk in order to produce balls and footwear that have a less hazy appearance and are of larger sizes than conventional ones.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-54 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 20-25 of copending Application No. 09/704881 in view of Frisk.

This is a provisional obviousness-type double patenting rejection.

The '881 application claims laminates, balls and shoes having polyurethane and EVOH layers in them.

It fails to teach the platelets of applicants' claim 1.

Frisk is discussed above. It teaches that the clay platelets provide barrier, heat stability and stiffness properties to articles made with them (col. 4, lines 13-29).

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the platelets of Frisk in the laminates, balls and shoes of the '881 application in order to improve their barrier properties.

The motivation to employ the platelets of Frisk in the laminates, balls and shoes of the '881 application is found at col. 4, lines 13-29 of Frisk, where the barrier properties of articles containing its platelets are taught.

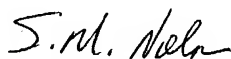
It is deemed desirable to make laminates, balls and shoes having improved barrier properties in order to improve their useful lives.

Conclusion

Any inquiry concerning this communication should be addressed to Sandra M. Nolan, at telephone number 571/272-1495. She can normally be reached Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time.

If attempts to reach the examiner are unsuccessful, her supervisor, Harold Pyon, can be reached at 571/272-1498.

The fax number for patent application documents is 703/872-9306.



S. M. Nolan
Primary Examiner
Technology Center 1700

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